The NCLEX pharmacology cheat sheet

Antidotes, drug levels, lab values, and hold parameters. Free printable PDF, no email required.

If you read nothing else in your final 48 hours, read this. These are the highest-yield facts stripped to what the NCLEX asks: the antidotes it pairs to drugs, the narrow-index levels it hands you in a stem, and the lab values it wants you to check before you give something. Every range here reflects commonly taught NCLEX values; your laboratory's own reference range governs real practice.

Antidotes and reversal agents

Antidotes are a favorite item, usually phrased as "which agent reverses this drug?" or "what does the nurse anticipate?" Memorize the must-know 8 cold.

THE MUST-KNOW 8

heparin → protamine · warfarin → vitamin K · opioids → naloxone · benzodiazepines → flumazenil · acetaminophen → acetylcysteine · digoxin → digoxin immune Fab · magnesium → calcium gluconate · insulin or low glucose → dextrose or glucagon.

DRUG OR TOXIN	ANTIDOTE OR REVERSAL AGENT
Heparin	Protamine sulfate
Warfarin	Vitamin K (phytonadione); for a serious bleed, PCC or FFP
Dabigatran (DOAC)	Idarucizumab (Praxbind)
Factor Xa inhibitors (apixaban, rivaroxaban)	Andexanet alfa (Andexxa)
Opioids	Naloxone (Narcan)
Benzodiazepines	Flumazenil
Acetaminophen	Acetylcysteine (N-acetylcysteine)
Digoxin	Digoxin immune Fab (DigiFab)
Magnesium sulfate toxicity	Calcium gluconate
Insulin / hypoglycemia	Dextrose (D50 IV) or glucagon
Iron	Deferoxamine
Organophosphate / cholinergic	Atropine (plus pralidoxime)
Anticholinergic toxicity	Physostigmine
Beta-blocker overdose	Glucagon
Calcium channel blocker overdose	Calcium
Nondepolarizing neuromuscular blockers	Neostigmine; sugammadex (rocuronium, vecuronium)

Therapeutic drug levels (narrow-index drugs)

If a question hands you one of these levels, it is almost always the point of the question.

DRUG	THERAPEUTIC RANGE	TOXICITY NOTE
Digoxin	0.8 to 2 ng/mL	Above 2 is toxic; low potassium worsens it
Lithium	0.6 to 1.2 mEq/L	1.5 and above is toxicity; dehydration and low sodium raise it
Phenytoin	10 to 20 mcg/mL	Nystagmus and ataxia signal toxicity
Valproic acid	50 to 100 mcg/mL	Hepatotoxicity
Carbamazepine	4 to 12 mcg/mL	Agranulocytosis
Theophylline	10 to 20 mcg/mL	Above 20 brings tachycardia and seizures
Warfarin (INR)	2 to 3 (2.5 to 3.5 mechanical valve)	Above range means a bleeding risk
Heparin (aPTT)	46 to 70 sec (~1.5 to 2.5x control)	Above range means a bleeding risk
Vancomycin (trough)	~10 to 20 mcg/mL	Nephrotoxicity and ototoxicity
Acetaminophen	max ~4 g/day (adult)	Hepatotoxicity above the limit

Must-know lab values

These recur across pharmacology questions: which lab to check before or after a drug. Ranges are typical adult values and vary by lab.

LAB	TYPICAL RANGE	WHY IT IS HIGH-YIELD
Potassium	3.5 to 5.0 mEq/L	digoxin, ACE and ARB, diuretics, insulin
Sodium	135 to 145 mEq/L	lithium, diuretics, carbamazepine (low)
Calcium	9.0 to 10.5 mg/dL	thiazides (high), loops (low)
Magnesium	1.5 to 2.5 mEq/L	PPIs (low), magnesium sulfate toxicity
Creatinine	0.6 to 1.2 mg/dL	aminoglycosides, vancomycin, NSAIDs, contrast with metformin
Fasting glucose	70 to 100 mg/dL	insulin, antidiabetics, steroids
INR	~0.8 to 1.1 off anticoagulant	warfarin (target 2 to 3)
aPTT	30 to 40 sec baseline	heparin (target 46 to 70)
Platelets	150,000 to 400,000/mm³	heparin (HIT), anticoagulants
ANC	> 1,500 normal; < 500 severe	clozapine (agranulocytosis)
Hemoglobin	12 to 16 (F) / 14 to 18 (M) g/dL	anticoagulants (bleeding)

Hold parameters and high-alert drugs

Hold and notify when

- Apical pulse **under 60** before digoxin or a beta-blocker
- Respiratory rate **under 12** before an opioid
- Potassium out of 3.5 to 5.0 before digoxin or a diuretic
- INR above range before warfarin
- A drug level above its therapeutic window

High-alert groups (an error means major harm)

Insulin, anticoagulants (heparin, warfarin, DOACs), opioids, concentrated electrolytes (especially IV potassium, which is never given IV push and is always diluted on a pump), neuromuscular blockers, chemotherapy, digoxin, and lithium.

Boxed-warning associations worth knowing

Warfarin, heparin, and DOACs (major bleeding) · fluoroquinolones (tendon rupture) · SSRIs and other antidepressants (suicidality in the young) · clozapine (agranulocytosis) · NSAIDs (cardiovascular events and GI bleeding) · antipsychotics (increased mortality in elderly dementia patients) · long-acting beta-agonists used alone in asthma (asthma-related death).

Classic teaching one-liners

- **Levothyroxine:** take on an empty stomach, same time each morning.
- **Proton pump inhibitor:** take before breakfast.
- **Nitroglycerin:** store in the dark glass bottle; sit down first; call 911 if chest pain is not relieved after the first tablet.
- **Tetracyclines and fluoroquinolones:** separate from dairy and antacids.
- **Inhaled corticosteroid:** rinse the mouth after use to prevent thrush.
- **Sun protection** with tetracyclines, sulfonamides, fluoroquinolones, amiodarone, and thiazides.
- **Alendronate:** take with a full glass of water and stay upright for 30 minutes.